An effective iterated tabu search for the maximum bisection problem

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Résumé en anglais	Given an edge weighted graph G=(V,E),G=(V,E), the maximum bisection problem involves partitioning the vertices of V into two disjoint subsets of equal cardinality such that the weight sum of the edges crossing the two subsets is maximized. In this study, we present an Iterated Tabu Search (ITS) algorithm to solve the problem. ITS employs two distinct search operators organized into three search phases to effectively explore the search space. Bucket sorting is used to ensure a high computational efficiency of the ITS algorithm. Experiments based on 71 well-known benchmark instances of the literature demonstrate that ITS is highly competitive compared to state-of-the-art approaches and discovers improved best-known results (new lower bounds) for 8 benchmark instances. The key ingredients of the algorithm are also investigated.
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